

Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Currently Amended) A distal protection device comprising:
a filter cartridge having a frame portion, a filter portion[, and]]; and
a proximal region having a ridge for interface with an inflatable cuff disposed on
a retrieval device.

2. (Original) The device of claim 1, wherein the retrieval device comprises a
balloon catheter.

3. (Original) The device of claim 1, further comprising a longitudinal
portion, wherein the longitudinal portion has a proximal end, a distal end and wherein the
proximal region is a proximal section of the longitudinal portion.

4. (Original) The device of claim 3, further comprising a lumen between the
proximal end and the distal end of the longitudinal portion.

5. (Original) The device of claim 1, wherein the proximal region is a
proximal section of the frame portion.

6. (Original) The device of claim 3, wherein the longitudinal portion has a substantially circular cross section.

7. (Original) The device of claim 3, wherein the ridge is a distally decreasing region on the outer perimeter of the proximal end of the longitudinal portion.

8. (Original) The device of claim 4, wherein the ridge is a distally increasing region on the inner perimeter of the proximal end of the longitudinal portion.

9. (Currently Amended) The device of claim [[1]] 3, wherein the longitudinal portion further comprises a toroidal lumen having a proximal end and a distal end, wherein the toroidal lumen defines an inner longitudinal portion disposed within the toroidal lumen and an outer longitudinal portion disposed around the toroidal lumen, and wherein the outer longitudinal portion and the inner longitudinal portion are connected proximate the distal end of the outer longitudinal portion.

10. (Original) The device of claim 9, wherein the ridge is a distally decreasing region on the outer perimeter of the inner longitudinal portion.

11. (Currently Amended) The ~~cartridge~~ device of claim 9, wherein the ridge is a distally increasing region on the inner perimeter of the outer longitudinal portion.

12. (Currently Amended) The ~~cartridge~~ device of claim 3, wherein the longitudinal portion and the frame portion of the filter cartridge are monolithic.

13. (Original) A distal protection system comprising:
a filter cartridge having a proximal region with a ridge; and
a catheter having a distally located inflatable cuff, the cuff having an inflated and a deflated position, wherein when the cuff is in the inflated position at a point relative to the filter cartridge where at least a portion of the cuff is distal the ridge, at least a portion of the filter cartridge is prevented from moving distally beyond the cuff.

14. (Currently Amended) The system of claim 13, wherein the filter cartridge comprises a frame portion, a filter portion disposed on the frame portion, and a longitudinal portion having a proximal end, a distal end and a first lumen disposed therebetween.

15. (Currently Amended) The system of claim 13, wherein the ~~retrieval device~~ catheter is comprised of a first longitudinal tubular member having a proximal end, a distal end and a first lumen disposed therebetween, wherein the first lumen is fluidly connected to the cuff.

16. (Currently Amended) The system of claim 13, wherein the ~~retrieval device catheter~~ is further comprised of a second lumen disposed parallel to the first lumen, the second lumen having a proximal opening and a distal opening.

17. (Currently Amended) The system of claim [[13]] 14, wherein the proximal region with a ridge is a proximal section of the longitudinal portion.

18. (Currently Amended) The system of claim [[13]] 14, wherein the proximal region with a ridge is a proximal section of the frame portion.

19. (Original) The system of claim 14, wherein the longitudinal portion has a substantially circular cross section.

20. (Original) The system of claim 14, wherein the ridge is a distally decreasing region on outer perimeter of the proximal end of the longitudinal portion.

21. (Original) The system of claim 14, wherein the longitudinal portion further comprises a second lumen having a proximal end and a distal end, wherein the second lumen is disposed around the first lumen, defining an inner longitudinal portion disposed between the first lumen and the second lumen and an outer longitudinal portion disposed around the second lumen, and wherein the outer longitudinal portion and the

inner longitudinal portion are connected proximate the distal end of the outer longitudinal portion.

22. (Original) The system of claim 21, wherein the ridge is a distally decreasing region on the outer perimeter of the inner longitudinal portion.

23. (Original) The system of claim 21, wherein the ridge is a distally increasing region on the inner perimeter of the outer longitudinal portion.

24. (Original) The system of claim 21, wherein the longitudinal member and the frame portion of the filter cartridge are monolithic.

25. (Original) The system of claim 21, wherein the cuff in the expanded state has a toroidal shape.

26. (Original) The system of claim 13, wherein the cuff comprises a plurality of expandable balloons disposed at the distal end of the tube.

27. (Original) The system of claim 13, wherein the cuff is disposed on the outer surface of the tube.

28. (Original) The system of claim 13, wherein the cuff is disposed within the first lumen of the tube.

29. (Currently Amended) A method of retrieving a cartridge from a body vessel lumen, the method comprising the steps of:

providing a filter cartridge disposed within a body vessel lumen;
providing a retrieval device having a distally located inflatable cuff;
advancing the retrieval device distally in the body vessel lumen until at least a portion of the retrieval device is distal the proximal most portion of the filter cartridge;
engaging the filter cartridge with the retrieval device such that at least a portion of the filter cartridge is prevented from moving distally beyond at least a distal portion of the retrieval device, wherein said step of engaging the filter cartridge with the retrieval device includes expanding the inflatable cuff; and
advancing the retrieval device and the filter cartridge proximally from the body lumen.

30. (Canceled)

31. (Original) The method of claim 30 wherein the filter cartridge has a proximal ridge and wherein the step of advancing the retrieval device includes advancing the retrieval device until at least a portion of the inflatable cuff extends distally beyond the ridge.

32. (Original) The method of claim 31 further comprising the steps of:
providing a wire extending distally through at least a portion of the filter cartridge
and proximally from the body lumen; and
advancing the balloon catheter proximally over the wire.

33. (Original) The method of claim 31 further comprising the steps of:
advancing a sheath to a point proximate the distal end of the filter cartridge; and
advancing the filter cartridge proximally into the sheath.

34. (Original) The method of claim 31, wherein the step of providing a filter
cartridge further comprises the steps of:
advancing a wire distally to a filter cartridge deployment location;
advancing a sheath distally over the wire; and
advancing a filter cartridge through the sheath using a catheter.

35. (Currently Amended) A distal protection device comprising:
[[A]] a filter cartridge having a frame portion, a filter portion; and
[[A]] a proximal region having an area with an increased coefficient of friction for
interface with a retrieval device.

36. (Currently Amended) The device of claim [[1]] 35, further comprising a
radiopaque band on the proximal region.

37. (Currently Amended) The device of claim [[1]] 35, further comprising a second ridge on the proximal region.

38. (Currently Amended) The system device of claim [[13]] 35, wherein the further comprising an inflatable cuff [[has]] having a first inflation chamber and a second inflation chamber located distal the first inflation chamber.

39. (Currently Amended) The system device of claim [[13]] 38, further comprising a balloon on the catheter proximal the inflatable cuff.

40. (Currently Amended) The system device of claim 39, wherein the balloon is an angioplasty balloon.

41. (Currently Amended) The system device of claim [[13]] 38, further comprising a radiopaque band proximate the inflatable cuff.

42. (Currently Amended) The system device of claim [[13]] 38, wherein the inflatable cuff has a surface with an increased coefficient of friction.